

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number
WO 2004/026248 A3

(51) International Patent Classification⁷: **C07D 417/00**,
231/44

(21) International Application Number:
PCT/US2003/029494

(22) International Filing Date:
17 September 2003 (17.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/412,231 20 September 2002 (20.09.2002) US
60/476,079 5 June 2003 (05.06.2003) US

(71) Applicant (for all designated States except US): **MERCK & CO., INC.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ALI, Amjad** [GB/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **ASTER, Susan, D.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **BALKOVEC, James, M.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **GRAHAM, Donald, W.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **HUNT, Julianne, A.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **KALLASHI, Florida** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **SINCLAIR, Peter, J.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ

07065-0907 (US). **TATA, James, R.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **TAYLOR, Gayle, E.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US). **GOULET, Joung, L.** [US/US]; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US).

(74) Common Representative: **MERCK & CO., INC.**; 126 East Lincoln Avenue, Rahway, NJ 07065-0907 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

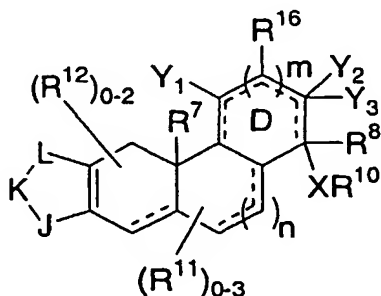
Published:

— with international search report

(88) Date of publication of the international search report:
15 July 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: OCTAHYDRO-2-H-NAPHTHO[1,2-F] INDOLE-4-CARBOXAMIDE DERIVATIVES AS SELECTIVE GLUCOCORTICOID RECEPTOR MODULATORS



(I)

(57) Abstract: The present invention encompasses compounds of Formula I: or pharmaceutically acceptable salts or hydrates thereof, which are useful as selective glucocorticoid receptor ligands for treating a variety of autoimmune and inflammatory diseases or conditions. Pharmaceutical compositions and methods of use are also included.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/29494

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07D 417/00, 231/44

US CL : 546/271.1; 548/369.1; 514/406, 277, 183

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 546/271.1; 548/369.1; 514/406, 277, 183

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
STN, REGISTRY, CAPLUS, BEILSTEIN

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- A	US 4,349,558 A (BELL) 14 September 1982 (14.09.1982, see the entire document, especially compound of Formula I in column 1 and compound of Formula II in column 2.	1 ----- 2-31
X --- A	US 4,307,102 A (BELL) 22 December 1981 (22.12.1981), see the entire document, especially Formula I in column 1 and Formula II in column 2.	1 ----- 2-31
Y	CA 1 178 965 (BELL) 04 December 1984 (04.12.1984), see the entire document, especially Formula I in claim 1.	1-6

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

15 April 2004 (15.04.2004)

Date of mailing of the international search report

22 APR 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Sabina N. Qazi

Telephone No. (571) 272-1600

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/29494

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-31 (in-part, as in Group I)

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

PCT/US03/29494

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

Group I, when K and J are N.

Group II, when K, J and L are C (no hetero group is present).

Group III, when K, J and L are C (hetero group is present).

Group IV, when K, J and L are N.

The inventions listed as Groups I to IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

There are a number of combinations of the substituents of formula I and different cores with K and L are nitrogen, with K, J and L are carbon and K and J are nitrogen.

Furthermore, the substituent X can be a heterocyclic group. Each of them belong to different classes of compounds.

The inventions cited above lacks the same or corresponding special technical features.